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HOMEMAKERS' CHAT Thursday, December 21, 1939.

Subject: "GETTING ENOUGH PROTEIN IN THE DIET." Information from the Yearbook article by D. B. Jones, Bureau of Agricultural Chemistry and Engineering, U. S. Department of Agriculture.

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TodayI'm bringing you a resume of an article in the new Department of Agriculture Yearbook, by D. B. Jones, of the Bureau of Agricultural Chemistry and Engineering. The subject of the article, "Protein Requirements of Man", is of interest to all homemakers who wish to give their families the right foods in the right amounts.

Dr. Jones thinks there's a tendency to provide too little protein, and he also adds that contrary to current belief, there's nothing to show that a high protein diet is harmful. But here is what he says:

"Protein is primarily body building material. It consitutes the chemical basis of all living cells, and without it, life cannot exist. In the body organs and tissues no other substance can take its place. About 18 percent of our bodies consists of protein. The hair, nails, skin, and muscle tissues are almost entirely portein.

"So we must eat protein foods to make new body tissues and also to renew those worn out by great activity or by disease. Foods of animal origin - particularly milk or cheese, lean meats, eggs, and fish, supply proteins in the most satisfactory form, but we also get protein from cereals and legumes and other vegetable foods.

"Proteins have about the same energy or fuel value as carbohydrates-starches and sugars. But since the most desirable proteins are among our most expensive foods, it is more economical to get our fuel or energy foods from the starches and sugars, and use proteins in the diet to furnish the body with materials

no other foodstuff can supply.

"Proteins are so complex a brief explanation must suffice. They are made up of a number of chemical units called amino acids. (Amēēno acids.) There are 22 of these amino acids in all. Some are found in one kind of protein and some in others, and partically all of them are found in the body tissues. About 10 of the amino acids are absolutely essential in the diet. When a protein lacks any of these 10, it is called 'incomplete' or 'inefficient'. However, if we eat a mixed diet containing both efficient and incomplete proteins, the foods will supplement each other. So we need variety in our proteins as well as in our vitamin and mineral foods.

"The most nearly pure or efficient protein as it occurs in food, is found in the white of egg, the curd of milk, and lean meat. The proteins of corn, wheat, white beans, and gelatin are incomplete. A meat sandwich or a dish of baked beans containing some pork illustrates how the proteins can be combined.

"Here's another thing to remember: The proteins of some of the legume seeds. including the navy bean, lima bean, and lentil, are indigestible until they are cooked for a short time. Soybeans and peanuts are exceptions to the rule about legumes. They are both complete proteins. But soybeans have to be heated to become digestible.

"Now here's a point that may surprise you: Raw egg white is less digestible than coagulated- or coddled- egg white. In general, moderate cooking does not hurt the proteins of most foodstuffs, and often improves their digestibility. High cooking temperatures are bad for meats, eggs, milk or fish foods.

"How much protein does a person need daily? The answer depends on two or three things. The age, the physical activity, and in an adult, the body weight. When you stop to think how fast a baby increases in size the first year, when consuming large quantities of protein in the form of milk, and also throughout childhood, you realize the child's need for material to build new muscles and other

protein tissue. But adults require a constant supply of protein, too, for replacement and maintenance of their body tissues. The heavier their work or the greater their muscular activity in other ways, the more protein they need. Also the bigger and heavier their bodies, the more protein they require to keep the same weight. People at sitting tasks, like stenographers or dressmakers, may get along on considerably less protein, and other foods, too.

"During the first part of the present century nutrition authorities advocated a very liberal allowance of protein in the diet, both in Europe and in the United States. Then there was a swing to the other extreme, and for a time, many people got too small a daily intake of protein. Now we have reached a happy mean. Recent conclusions are that it is not so much a question of how little protein a person can get along with and still be normal in nutritive condition. Rather it is the amount required to give the maximum degree of health and well-being. Then there's a margin of safety above the normal needs.

"Most nutritionists now say that the total daily need for a moderately active man lies between 80 and 100 grams of protein, largely of animal origin- milk, cheese, eggs, meat or fish. In practice this comes to a minimum of 1/2 gram of protein per pound of body weight, - more if the man's activity is increased. So if a man weighs 160 pounds, he would be on the safe side if he ate 80 grams of protein daily, but he probably needs a little more.

"To give you an idea of where to get this amount of protein, the following diet for a day would supply 95 grams: Breakfast, 1 orange, 2 slices of toast 1 egg; lunch, 2 slices of bread, 1 pint of milk, a cup of custard; dinner, 1 cup of soup, 1/4 pound of steak, 1 potato, 1 serving of shelled lima beans, 1 serving of spinach, salad, dessert. Understand that this does not represent a balanced or adequate diet. simply how much protein is found in the various meals."

The chief thing to remember from Dr. Jones' information is to eat enough protein foods of animal origin, particularly milk, cheese, eggs, and meat.

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